

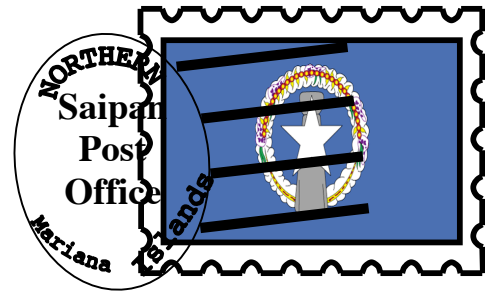
HAFA DAI FRIENDS!

Welcome to the deepest, darkest place in the world! Doesn't sound too pleasing, does it? But this is what we are famous for here at the Mariana Islands, right next to the Mariana Trench. (A trench is like a deep



The Mariana Trench is located in the Pacific Ocean, just east of the 14 Mariana Islands near Japan. It is the deepest part of the earth's oceans and the deepest location of the Earth itself.

<http://www.marianatrench.com/>



underwater canyon.) At more than 10,970 m (36,000 ft) below sea level, the Mariana Trench is the deepest point on the Earth! It is even deeper than Mt. Everest is high, at 8,850 m (29,035 ft).

So now that I've introduced the place you'll be learning about, let me tell you a little bit about myself. My name is Ashley, and I was born in Seattle, Washington, but I have been living here on Saipan, one of the Northern Mariana Islands. The Northern Mariana Islands are different from the Southern Marianas in that the northern ones are volcanic and younger. My father is a researcher and works with the United States government, which moved our family out here about six years ago. It's a great place to visit but a little remote for me, having lived in the big city of Seattle.

The Northern Mariana Islands are a popular tourist attraction, and we get lots of visitors around here from different places. However, most of the visitors aren't really interested in the Mariana Trench, which runs from northeast to southwest for 2,544 km and is an average of 64 km wide. My dad has been down there in a submarine before, and he says that it gets really dark and cold as you get deeper. At its deepest parts, the temperature at the Mariana Trench is as cold as 4° C – only a few degrees above freezing! And the pressure at the very bottom is unbelievable. The weight on top of you if you were at the bottom would be the same as 48 jumbo jets – I don't think any human could scuba dive down there!

No one even knew how deep the Mariana Trench was until 1968, when the *Challenger* reached the bottom. The Challenger was a specially designed submarine that was built just so it could reach the deepest parts of the Mariana Trench. Did you know that the deepest point of the Mariana Trench is named after the submarine? Yup, it's called the "Challenger Deep."

Since 1968, other deep-sea submarines have regularly made the trip down to the bottom of the Marianas to collect soil samples and take lots of pictures. My dad is an oceanographer, so he has been making maps of the ocean floor around the area since he got here. From the top of the ocean, he and his team send sound waves all the way down to the bottom that bounce back up to

Mariana Trench

Page 1 of 2

the surface. In this way, he can tell how deep the ocean is at various points and make accurate maps. It's exciting when I get to see him doing this type of thing up close!

I bet you don't think anything could live at the bottom of Mariana Trench, especially since it's so deep that the sun's rays cannot reach down there. How could anything live there? How could anything see, or bear the extremely cold conditions? Well, it turns out that there *are* living creatures at the bottom of the ocean here! There's the Brotulid fish, also known as the "sea pig." This fish has no eyes! There are also echinoderms (sea cucumbers) and giant squid.

In addition to the darkness, near-freezing temperatures, and extremely high pressure, the Mariana Trench, as well as the islands themselves, are riddled with frequent earthquakes and volcanic eruptions. Anatahan Volcano is an active volcano just a few hours north of here by boat. It erupted this past year, spewing ash and lava. This created havoc for aircraft trying to pass overhead! There are 12 above-water volcanoes, as well as 40 submarine volcanoes in the Northern Marianas that are lined up in a north-south direction. When they erupt, these deep-sea volcanoes spew hot lava. In fact, the Mariana Islands, lined up just west of the Mariana Trench, were formed by this kind of underwater explosion.



Eruption cloud from the east crater of Anatahan Volcano, rising to a height of about 15,000 feet on May 10, 2003.

http://hvo.wr.usgs.gov/volcanowatch/2003/03_05_15.html

Sincerely,
Ashley Emery
15°N 146°E



Creatures adapt to their environment in many strange and unusual ways. In the deepest oceans where there is no light and food can be scarce, the anglerfish is an incredible example of how living organisms can find a way to survive in even the most inhospitable environment.

<http://www.geocities.com/thesciencefiles/anglerfish.html>

Even though conditions can be scary around here, it's still possible to have a good time scuba diving because the shallow parts of the area have tropical fish famous around the world for their colors. The coral reefs are also a magnificent sight and make for some very lovely pictures! If you ever get the chance to visit, I'll show you around them!